

**REMARKS**

This is in response to the Final Office Action mailed February 20, 2003. The Office Action rejected claims 29, 30, 39-41, and 45-48 under 35 U.S.C. § 102, and rejected claims 31, 42-44, and 49-51 under 35 U.S.C. § 103.

To more clearly claim the novel aspects of the invention, Applicants have amended claims 30 and 39-44, and added claims 52 and 53. Claims 30, 39-44, and 52-53 remain pending in the application. Reconsideration in light of the amendments and remarks made herein is respectfully requested.

**Rejections Under 35 U.S.C. § 102**

1. The Office Action rejected claims 29, 30, and 45 under 35 U.S.C. § 102(e) as being anticipated by Tremblay et al. (hereinafter Tremblay) (U.S. Patent No. 6,021,469).

Applicants respectfully traverse the rejection in its entirety.

Claims 29 and 45 have been cancelled.

Claim 30 has been amended to claim a "data structure ~~storage method used by instruction storing means~~ that stores a virtual machine instruction sequence generated by compiler to be executed by a virtual machine, the data structure including: ... a plurality of instruction blocks that constitute the virtual machine instruction sequence, the instruction blocks corresponding to separate basic blocks and formatted for transmission .... " Applicants submit that the amendments merely clarify the claim.

Applicants submit that while Tremblay shows hardware components, it does not teach or suggest instruction blocks, such as data structures, as claimed. The Office Action refers to

Tremblay, Figures 1, 2, & 4A; column 5, line 36 to column 6, line 28, which discloses hardware elements but not the claimed instruction block arrangement which is a data structure. As noted above, claim 30 has been amended to more clearly claim an instruction block ("data structure") and not a hardware structure.

A novel aspect of the present invention lies in the way that the instruction blocks are divided and arranged. Tremblay does not disclose how instruction sequences are segmented. In the prior art, a single instruction sequence typically includes multiple branching instructions throughout the single instruction sequence. At the receiving side, a just-in-time compiler, for example, would need to find and move branch destinations to operate properly.

In the present invention, an instruction sequence is divided into multiple instruction blocks or data structures (Application Figs. 71 & 72), each instruction block having a single branch instruction area (Figs. 71 & 72, 3855). By having a single branch instruction area (3855) per instruction block, conventional processing of instruction sequences with interspersed branch destinations is largely unnecessary. Such segmentation an instruction sequence into multiple instruction blocks, each with a single branch instruction area, improves the performance of the just-in-time compiler, for example, at the receiving end since the compiler does not have to find and move all branch instructions interspersed in an instruction sequence .

To further clarify claim 30, it has been amended to recite "the instruction blocks corresponding to separate basic blocks and formatted for transmission ...." This amendment more clearly recites that the instruction blocks are distinct and separate units of data. Additionally, it specifies that the instruction blocks are formatted for transmission, and, thus, are

not just temporary data structures. The fact that each instruction area includes a block identifier (3853) supports the amendment of separate basic blocks and formatted for transmission.

For at least the foregoing reasons, Applicants respectfully submit that Claim 30 is in condition for allowance and respectfully requests withdrawal of the 35 U.S.C. § 102(e) rejection of claims 30 as being anticipated by Tremblay. As a result of their dependence on independent claim 30, Applicants also submit that claims 2-7 are also allowable.

2. The Office Action rejected claims 39-41, and 46-48 under 35 U.S.C. § 102(e) as being anticipated by Wahbe et al. (hereinafter Wahbe) (U.S. Patent No. 6,151,618).

Applicants respectfully traverse the rejection in its entirety.

Claims 46-48 have been cancelled.

Independent Claim 39 has been amended to claim a "data structure storage method used by instruction storing means that stores a virtual machine instruction sequence generated by compiler to be executed by a virtual machine, the data structure including: ...a plurality of instruction blocks ...corresponding to separate basic blocks and formatted for transmission ...." Applicants submit that these amendments merely clarify the claim.

As with Tremblay, Applicants submit that the cited portions of Wahbe do not teach or suggest dividing an instruction sequence into multiple instruction blocks or data structures (Application Figs. 71 & 72), each instruction block having a single branch instruction area (3855). By having a single branch instruction area, conventional processing of branch destination is largely unnecessary and this improves the performance of the just-in-time compiler, for example, at the receiving end.

To further clarify claim 39, it has been amended to recite "the instruction blocks corresponding to separate basic blocks and formatted for transmission ...." This amendment more clearly recites that the instruction blocks are distinct and separate units of data. Additionally, it specifies that the instruction blocks are formatted for transmission, and, thus, are not just temporary data structures. The fact that each instruction area includes a block identifier (3853) supports the amendment of separate basic blocks and formatted for transmission.

Applicants respectfully request that the rejection of claims 39-41 under 35 U.S.C. § 102(e) be withdrawn and the claims be allowed.

**Rejections Under 35 U.S.C. § 103**

3. The Office Action rejected claim 31 under 35 U.S.C. § 103 as being unpatentable over Tremblay et al. (U.S. Patent No. 6,021,469) in view of Rupp (U.S. Patent No. 4,177,514).

While Applicants, disagree that the cited prior art teaches the limitations of claim 31, claim 31 has been cancelled to be presented in a separate patent application.

4. The Office Action rejected claims 42-44 and 49-51 under 35 U.S.C. § 103 as being unpatentable over Wahbe (U.S. Patent No. 6,151,618) in view of Tremblay (U.S. Patent No. 6,021,469).

Applicants respectfully traverse the rejection in its entirety.

While Applicants, disagree that the cited prior art teaches the limitations of claims 49-51, claims 49-51 have been cancelled to be presented in a separate application.

As to claims 42-44, Applicants submit that these claims are patentable as a result of their dependence on claim on independent claim 39 which Applicants have already distinguished from the prior art.

Thus, Applicants respectfully request that the rejection of claims 42-44 under 35 U.S.C. § 103 be withdrawn and the claims be allowed.

**Conclusion**

In view of the amendments and remarks made above, it is respectfully submitted that the pending claims are in condition for allowance, and such action is respectfully solicited.

Authorization is hereby given to charge our Deposit Account No. 19-2814 for any charges that may be due. Furthermore, if an extension is required, then Applicants hereby request such an extension.

Respectfully submitted,

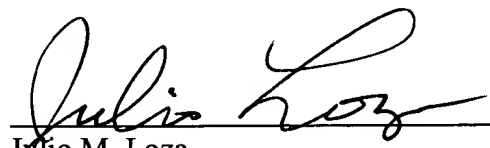
I hereby certify that this document and fee is being deposited on May 19, 2003 with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450.

By: James Lee

  
Signature

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